

IB/05/00460



INVESTOR IN PEOPLE

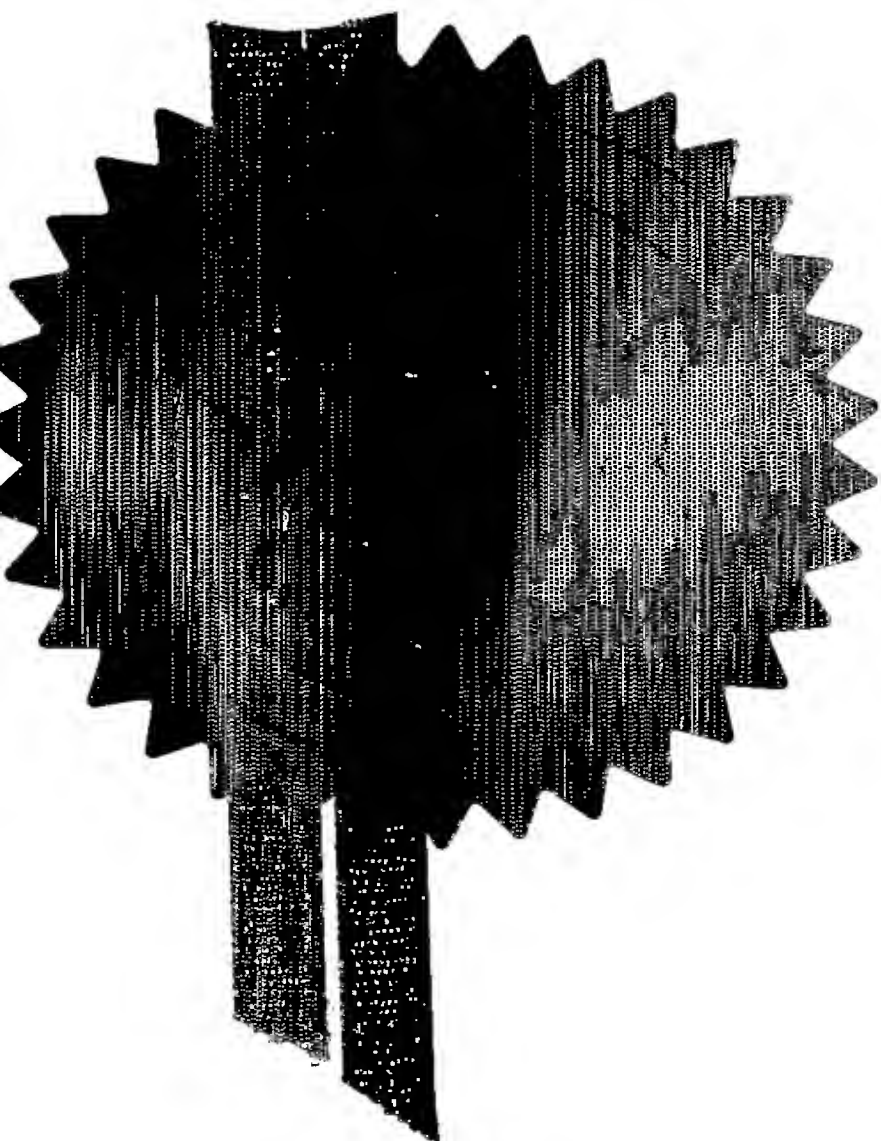
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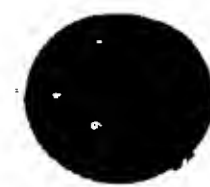
Stephen Hordley

Dated 22 March 2005

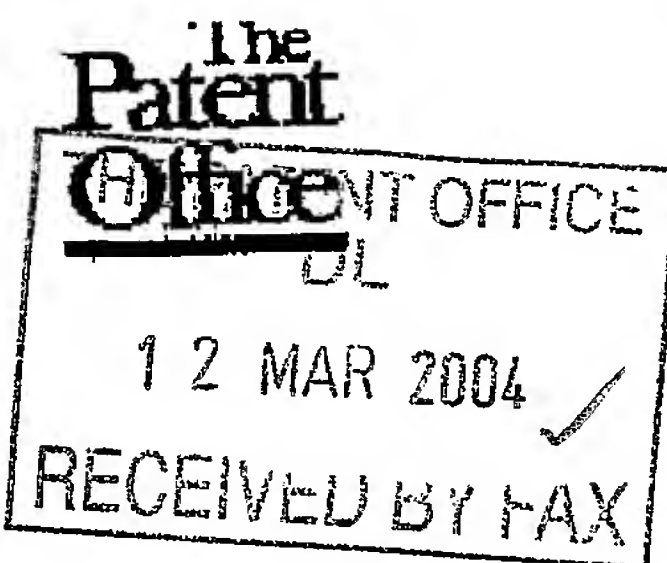
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Request for grant of a patent

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)

1. Your reference

2277

12 MAR 2004

2. Patent application number
(The Patent Office will fill in this part)

0405550.5✓

3. Full name, address and postcode of the or of each applicant (underline all surnames)

Britax Romer Kindersicherheit GmbH
Blaubeurer Strasse 71
89077 Ulm

627040-002

Patents ADP number (if you know it)

GERMANY

If the applicant is a corporate body, give the country/state of its incorporation

DE

4. Title of the invention

Tension Indicator

5. Name of your agent (if you have one)

NIGEL BROOKS CPA

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

HILL HAMPTON
EAST MEON
PETERSFIELD
HAMPSHIRE GU32 1QN

Patents ADP number (if you know it)

463001

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country

Priority application number
(if you know it)Date of filing
(day / month / year)

GB

NA

NA

NA

NA

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing
(day / month / year)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if:

yes

a) any applicant named in part 3 is not an inventor, or

b) there is an inventor who is not named as an applicant, or

c) any named applicant is a corporate body.

See note (d))

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Claim(s)	0 <i>DL</i>
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10. If you are also filing any of the following, state how many against each item.

Priority documents	0
Translations of priority documents	0
Statement of inventors' right to grant of a patent (Patents Form 7/77)	0
Request for preliminary examination and search (Patents Form 9/77)	0
Request for substantive examination (Patents Form 16/77)	0
Any other documents (please specify)	

11. I/We request the grant of a patent on the basis of this application.

Signature

Date

12/03/04

12. Name and daytime telephone number of person to contact in the United Kingdom

NIGEL BROOKS CPA (01730) 823647

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Notes

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TENSION INDICATOR

The present invention relates to a tension indicator.

5 In an automotive child restraint system, typically a child seat attached to the seat of a car, there is a requirement to tension the straps holding the child into the seat. Normally this is done by drawing out a central strap, which is attached to and tensions the individual straps, particularly the shoulder straps.

10 Conventional tensioning arrangements have no means by which the user can gauge the tension in the straps, aside from feeling them.

The object of the present invention is to provide an indicator for indicating tension in a restraint strap

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According to the invention there is provided a tension indicator in combination with a strap whose tension is to be indicated, the combination comprising:

- the strap;
- 20 • a length of resilient material attached at two points along the length of the strap, the points of attachment being further apart in the longitudinal direction of the strap than the free, non-tensioned, length of the resilient material;
- a sleeve attached to the strap with the resilient material being accommodated within the sleeve; the sleeve being of a length to cover the resilient material
- 25 when it is not tensioned,

the arrangement being such that on tensioning of the strap, the resilient material is drawn from the sleeve and being exposed to view indicates that the strap is tensioned.

30 The sleeve can be attached to the strap remote from the end of the resilient material. For instance, the resilient material may be attached to the strap via the sleeve. The sleeve can be provided at either end of the resilient material, or indeed at both ends. If it is attached at one end, it will expose the resilient material at the other end. If it is attached at both ends, the exposure is in the middle.

The resilient material may be self coloured, or it may be provided with gradations of colour or indeed a marker, to indicate the degree of tension in the strap according to the extent of exposure.

5

To help understanding of the invention, a specific embodiment thereof will now be described by way of example and with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a tension indicator in accordance with the invention in a relaxed state;

Figure 2 is a similar view of the indicator in a tensioned state.

Referring to the drawings, a webbing strap 1 of the type used in a safety harness has a piece of elastomeric belt 2 stitched 3 to it at two points along its length. The position of the two stitchings along the length of the strap is such that in the relaxed state of the strap, with not tension in either the strap or the belt, the latter draws a belly 4 into the strap.

A length 5,6 of sleeving is stitched into the same points 3. The elastomeric belt is threaded within the lengths of sleeving. These are of equal length and jointly extend for the full length of the elastomeric belt in its relaxed state. The sleeving being of a type which does not readily crumple, such as filled and calendered non-woven material, it completely encloses the elastomeric belt when relaxed as shown in Figure 1.

25

When the elastomeric belt is tensioned, it stretches to a length greater than the sleeving. Thus it becomes exposed to view between the lengths of sleeving, as shown in Figure 2. The extent of stretching of the belt is limited by the distance along the strap between the stitching. Once the strap is straightened, the belt will stretch no more.

30

The actual tension in the strap, when the belt is fully stretched will be that in belt or more if the strap is carrying tension in parallel to the belt.

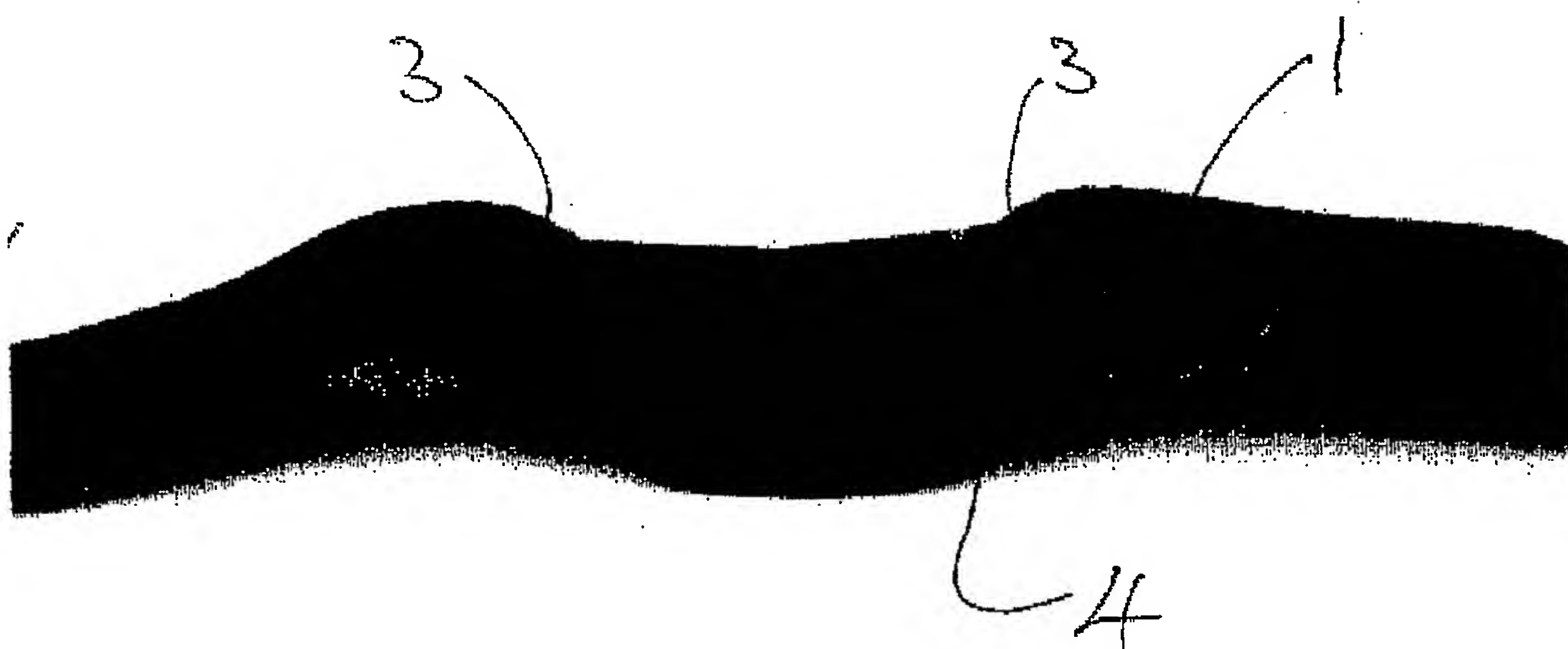
The length of the belt and the separation in the strap of the stitching will be chosen to ensure that the belt is fully stretched when the tension has reached the desired level.

- 5 This desired level can be indicated simply by the belt being exposed and the belly being pulled out of the strap.

- 10 Alternatively, belt can be coloured, whereby the exposed portion is red R for instance when insufficient tension is present , but the length of red colour is limited whereby when the belt is fully tensioned green portions G are exposed on either side of the red portion.



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FIGURE 1

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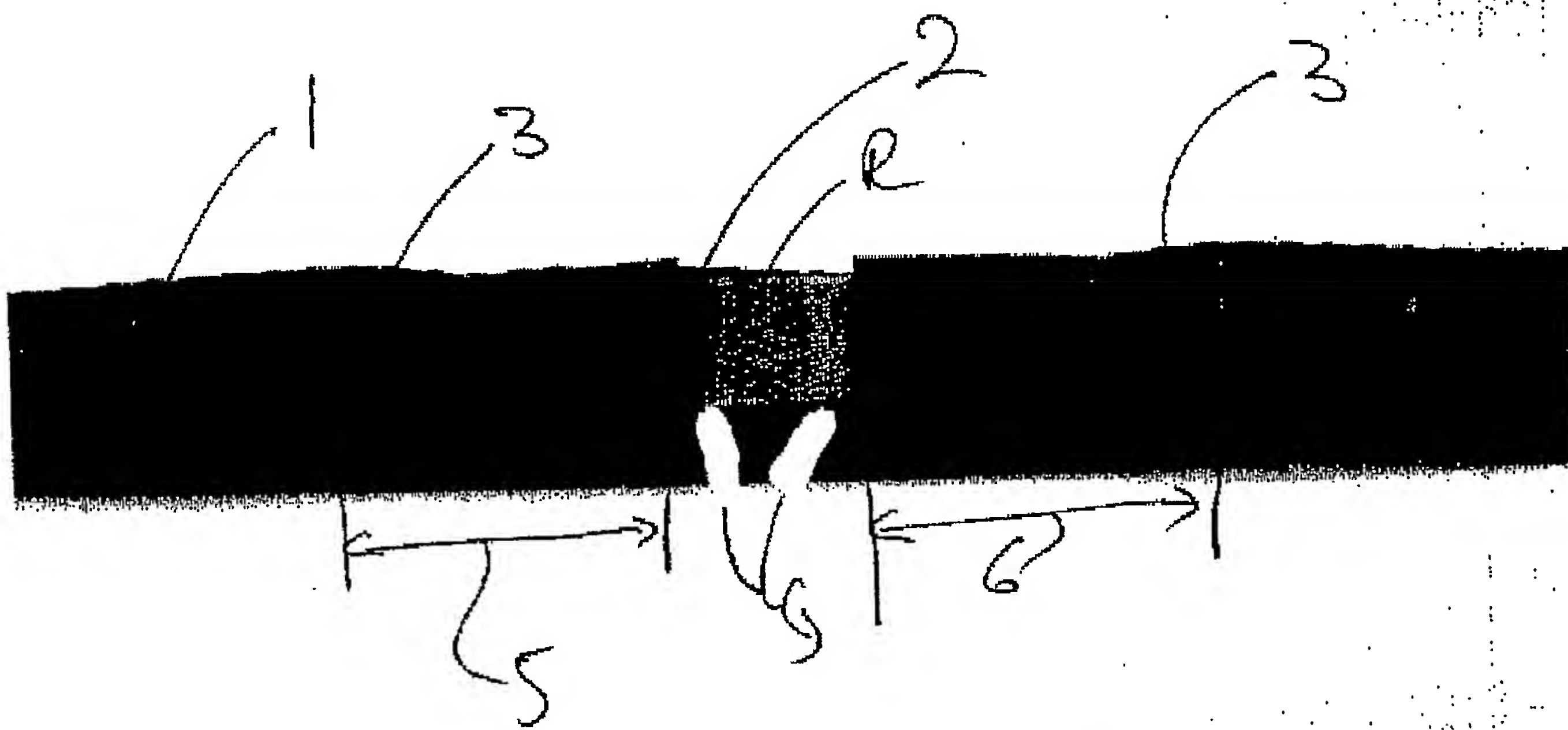


FIGURE 2

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